

**In the Claims:**

1. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising ~~the steps of:~~
  - identifying a parameter associated with a data packet transported across the network;
  - measuring the parameter after the data packet is transported across the network; and
  - enabling bandwidth optimization of the network bandwidth when said measured parameter differs from a predetermined value, wherein enabling bandwidth optimization includes ~~at least a one of~~ reconfiguring a switching matrix within the network ~~and reducing a number of channels in the network.~~
2. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising:
  - first and second PBX cabinets interconnected in a local area network configuration for sending and receiving data packets;
  - a register in connection with at least one of said cabinets for storing a value associated with one or more packets transported across the network;
  - a comparator for comparing said stored value with a predetermined value; and
  - an optimization mechanism for adjusting the bandwidth of the network when said stored value differs from a predetermined value, and wherein adjusting the bandwidth includes ~~at least a one of~~ reconfiguring a switching matrix within the PBX network ~~and reducing a number of channels in the PBX network.~~
3. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 1, wherein~~[[:]]~~ said parameter comprises a sequence number associated with the payload portion of said data packet.
4. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 1, wherein~~[[:]]~~ said parameter comprises measurement of the difference in arrival times of packets sent across the network and back between a first packet and a second packet.

5. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 1, wherein[[[:]]] said parameter comprises measurement of the difference in arrival times of packets sent across the network and back between the average value of arrival times of a group of packets and a second packet.
6. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in ~~Claim~~ claim 3, further comprising ~~the substep of:~~ storing the sequence number of data packets in a register.
7. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 6, further comprising ~~the substep of:~~ storing sequence numbers associated with successive data packets in the register.
8. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 7, further comprising ~~the substep of:~~ monitoring the sequence of sequence numbers associated with successive data packets stored.
9. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 8, further comprising ~~the substep of:~~
  - incrementing a counter in the register by a count of one when the sequence numbers of successive data packets stored are in sequential order; and
  - incrementing the counter by a count greater than one when the sequence numbers of successive data packets stored are out of sequential order.
10. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 9, further comprising ~~the~~

~~substep of:~~ initiating bandwidth optimization when said counter count is incremented by a count greater than one.

11. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 10, wherein[[:]] said bandwidth optimization comprises static optimization.

12. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 11, wherein[[:]] said static optimization comprises limiting the number of channels available on the network.

13. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 10, wherein[[:]] said bandwidth optimization comprises adaptive optimization.

14. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 13, wherein[[:]] said adaptive optimization comprises the step of determining which channels are physically represented by cards connected to a PBX network cabinet.

15. (Currently Amended) A method of dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 13, wherein[[:]] said adaptive optimization comprises the step of determining whether a channel is inactive and re-mapping an active channel to an available inactive one.

16-19. (Canceled).

20. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising:

a parameter identifying mechanism for identifying a parameter associated with a data packet transported across the network;

a parameter measuring device for measuring the parameter after the data packet is transported across the network; and

an optimization enabling device for optimizing the bandwidth of the network when said measured parameter differs from a predetermined value, and wherein optimizing the bandwidth includes ~~at least one of reconfiguring a switching matrix within the network and reducing a number of channels in the network.~~

21. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 20, wherein~~[[:]]~~ said parameter comprises a sequence number associated with the payload portion of said data packet.

22. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 20, wherein~~[[:]]~~ said parameter is derived from measurement of the difference in arrival times of packets set across the network and back between a first packet and a second packet.

23. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain Quality of Service level in the network as set forth in claim 20, wherein~~[[:]]~~ said parameter is derived from measurement of the difference in arrival times of packets sent across the network and back between the average value of arrival times of a group of packets and a second packet.

24. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in a network as set forth in claim 21, wherein~~[[:]]~~ sequence numbers of the data packets are stored together in a register.

25. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in a network as set forth in claim 24 wherein[[:]] sequence numbers associated with successive data packets are stored in the register.
26. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 25 wherein[[:]] the sequence of sequence numbers associated with stored successive data packets is monitored.
27. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 26 wherein:  
a counter in the register is incremented by a count of one when the sequence numbers of successive data packets stored are in sequential order; and  
the counter is incremented by a count greater than one when the sequence numbers of successive data packets are stored are out of sequential order.
28. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 27, wherein[[:]] bandwidth optimization is initiated when the counter count is incremented by a count greater than one.
29. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 28, wherein[[:]] bandwidth optimization comprises static optimization.
30. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 29, wherein[[:]] static optimization comprises limiting the number of channels available on the network.
31. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in ~~Claim~~ claim 28, wherein:

bandwidth optimization comprises adaptive optimization.

32. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network as set forth in claim 29, further comprising:  
adaptive optimization apparatus which determines which channels are physically represented by cards connected to a PBX network cabinet.
33. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain a Quality of Service level in the network comprising as set forth in claim 29, wherein[[:]] adaptive optimization determines whether a channel is inactive and re-maps an active channel to an available inactive one.
34. (Currently Amended) An apparatus ~~Apparatus~~ for dynamically adapting a PBX network to maintain Quality of Service level in the network comprising as set forth in claim 2, wherein[[:]] said value comprises measurement of the difference in arrival times of packets sent across the network and back between a first packet and a second packet.
35. (Canceled).